

REMARKS

The Office Action dated December 18, 2003, has been received and carefully considered. In this response, the specification, claims 1, 11, 12, 16, 19, 27 and 45, and Figures 1-11 have been amended. Entry of the amendments to the specification, claims and Figures is respectfully requested. Reconsideration of the outstanding objections and rejections in the present application is also respectfully requested based on the following remarks.

I. THE OBJECTION TO THE DRAWINGS

Figures 1-11 have been amended to improve their form and to address the objection presented by the Draftsperson. Specifically, enlarged versions of Figures 6 and 7 have been submitted to comply with 37 C.F.R § 1.84(p)(3). Support for the amendments to Figures 6 and 7 may be found in Figures 6 and 7 as originally filed. Figure 9 has been amended to include figure elements 907 and 908 and to add the reference number for figure element 909 to be consistent with the specification. Support for the amendments to Figure 9 may be found in the specification, *inter alia*, at page 24, lines 8-25 and page 28, line 11 to page 29, line 7. Figures 1-11 have been amended to remove extraneous information such the attorney docket reference numbers, page numbers, etc. No new matter is introduced by the

amendments to Figures 1-11. Entry thereof is respectfully requested.

In view of the foregoing, it is respectfully requested that the aforementioned objection to the drawings be withdrawn.

II. AMENDMENTS TO THE SPECIFICATION

The amendments to the specification address the objection to the specification presented by the Examiner. In particular, the specification has been amended to recite related application information as required by the Examiner. Support for the amendments to the specification can be found in the specification as originally filed. No new matter is introduced by the amendments to the specification.

In view of the foregoing, it is respectfully requested that the aforementioned objection to the specification be withdrawn.

III. AMENDMENTS TO THE CLAIMS

Claims 1, 11, 12, 16, 19, 27 and 45 have been amended as indicated in Appendix B. To clarify the record, these amendments were made solely to improve the form, readability, clarity and consistency of the claims, and were not made to distinguish the claimed subject matter over the applied references. Support for the amendments to claims 1-25 can be found in the specification and claims as originally filed. No new matter is introduced by these amendments.

IV. THE OBJECTION TO CLAIMS 10-12 AND 25-27

Applicants note with appreciation the indication on page 17 of the Office Action that claims 10-12 and 25-27 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants have opted to defer rewriting the above-identified claims in independent form pending reconsideration of the arguments presented below with respect to the rejected independent claims.

V. THE ANTICIPATION REJECTION OF CLAIMS 31, 33, 35, 36, 38 AND 40

On page 2 of the Office Action, claims 31, 33, 35, 36, 38 and 40 were rejected under 35 U.S.C. § 102(b) as being anticipated by Wang (Haojin Wang, "Telecommunications Network Management," McGraw-Hill Companies, Inc., July 26, 1999). This rejection is hereby respectfully traversed.

Under 35 U.S.C. § 102, the Patent Office bears the burden of presenting at least a prima facie case of anticipation. In re Sun, 31 USPQ2d 1451, 1453 (Fed. Cir. 1993) (unpublished). Anticipation requires that a prior art reference disclose, either expressly or under the principles of inherency, each and every element of the claimed invention. Id. "In addition, the

prior art reference must be enabling." Akzo N.V. v. U.S. International Trade Commission, 808 F.2d 1471, 1479, 1 USPQ2d 1241, 1245 (Fed. Cir. 1986), cert. denied, 482 U.S. 909 (1987). That is, the prior art reference must sufficiently describe the claimed invention so as to have placed the public in possession of it. In re Donohue, 766 F.2d 531, 533, 226 USPQ 619, 621 (Fed. Cir. 1985). "Such possession is effected if one of ordinary skill in the art could have combined the publication's description of the invention with his own knowledge to make the claimed invention." Id.

The Examiner asserts that Wang discloses every limitation recited independent claims 31 and 36 and dependent claims 33, 35, 38 and 40. With respect to method claim 31 (and its corresponding system claim 36), the Examiner alleges that Wang discloses all of the limitations of performing at least one of a startup and an initialization of a resource up to inter-component connection, determining if the resource has any dependency resources, the resource and its dependency resources forming a group of resources, waiting for dependency resources to complete initialization, establishing connections to dependency resources, proceeding with the at least one of startup and initialization, and establishing connections to the resource from the dependency resources. The Examiner refers to

pages 294, 296, 298, and 305 of Wang in particular in support of the Examiner's rejection of claims 31 and 36.

The Applicants respectfully submit that contrary to the Examiner's allegation, Wang fails to disclose, teach or suggest each and every limitation recited in independent claims 31 and 36. For one, neither page 305 nor any other section of Wang discloses the limitation of performing at least one of a startup and an initialization of a resource *up to intercomponent connection*. Page 305 of Wang describes a status attribute that "indicates a specific procedure required of a resource for it to operate, or indicates the phase of the procedure it is in" and continues on to list a number of status conditions, including "Initialization required," "Not initialized," "Initializing," "Reporting," and "Terminating." Thus, Wang describes the various states or phases of the operation of a resource, but fails to disclose or suggest performing any of these states or phases *up to the point of an intercomponent connection*.

Similarly, neither page 305 nor any other section of Wang disclose the limitations of waiting for dependency resources to complete initialization. Again, while Wang describes various states or phases of a resource, Wang makes no mention of waiting for a resource to complete initialization, much less waiting for a *dependency* resource to complete its initialization.

Additionally, Wang fails to disclose, teach or suggest the limitations of determining if a resource has any dependency resources. The Examiner cites pages 296 and 298 of Wang as relevant to these limitations. Page 296 of Wang teaches the general goal of network provisioning as ensuring "that adequate resources at the NE are deployed and configured to implement the services . . ." and page 298 of Wang discusses maintaining resource configurations as a result of newly installed or deleted resources or as a result of status changes in resources. However, neither of these sections, nor any other section of Wang, describe determining or identifying one or more resources on which another resource is dependent (i.e., determining if a resource has any dependency resources).

Accordingly, because Wang and the other cited references fail to teach disclose or suggest, alone or in combination, each and every limitation of independent claims 31 and 36, claims 31 and 36 should be allowable and notice to that effect is courteously solicited.

Claims 33 and 35 are dependent upon independent claim 31 and claims 38 and 40 are dependent on independent claim 36. Thus, since independent claims 31 and 36 should be allowable as discussed above, claims 33, 35, 38 and 40 should also be allowable at least by virtue of their dependency on one of

independent claim 31 and 36. Moreover, these claims recite additional features which are not claimed, disclosed, or even suggested by the cited references taken either alone or in combination. For example, claims 33 and 38 recite the limitations of determining dependency inter-component connection information from inter-component connection information received from an inter-component connection manager. Wang, as noted above, does not disclose, teach or suggest determining whether a resource has dependency resources and further fails to disclose receiving inter-component connection information from an inter-component connection manager.

Moreover, dependent claims 35 and 40 recite the limitations of requesting a resource pool manager to assign a dependency resource from a resource pool as part of performing startup of the dependency resources. The Examiner cited page 300 as relevant to these limitations. However, page 300 of Wang only describes a "switch-over" where services are switched "from an active resource to a backup one because of a failure, routine maintenance, or a scheduled control changeover." Neither this section nor any other section of Wang contemplates requesting the assignment of a dependency resource from a resource pool during the startup of a resource.

In view of the foregoing, it is respectfully requested that the aforementioned anticipation rejection of claims 31, 33, 35, 36, 38 and 40 be withdrawn.

VI. THE ANTICIPATION REJECTION OF CLAIMS 41-44 AND 47

On page 4 of the Office Action, claims 41-44 and 47 were rejected under 35 U.S.C. § 102(b) as being anticipated by Svedberg et al. (U.S. Patent No. 5,408,218). This rejection is hereby respectfully traversed.

The Examiner alleges that Svedberg discloses the method of claim 41 and 42, the corresponding system of claims 43-44 and the corresponding computer readable medium claim 47. In support of this allegation, the Examiner repeatedly cites col. 5, lines 36-52 of Svedberg. This section is reproduced below:

As shown in FIG. 1, two roles in the relationship are identified: the client 10 and the server 11, where the client 10 is functionally dependent on the server 11. One of the consequences of this dependency relationship 12 is that the operational state of the server 11 is propagated to its client 10. For example, when the server 11 is blocked (its operational state has changed to disabled), the client 10 is said to be secondarily blocked.

Fig. 2 is a block diagram illustrating a hierarchy of dependencies between MOs in a complex electrical system through which the operation or alarm state is propagated in accordance with the teachings of the present invention. When there is a hierarchy of dependencies, there is a hierarchy of client/servers 13, where the servers on one level are clients to server on the next level and so on. Most complex electrical systems contain such hierarchies of dependencies.

(Svedberg, col. 5, lines 35-52).

This passage discusses mainly the concept of tiered hierarchies and the concept that if a higher-level resource (i.e., the server 11) becomes inoperative, this inoperative status necessarily propagates to a lower-level resource dependent on the higher-level resource (i.e., the client 10). It is respectfully submitted that the cited passage of Svedberg fails to teach or suggest the transmission or reception of any type of information. Moreover, in contrast with independent claims 41, 43 and 47, neither the above passage of Svedberg nor any other section of Svedberg disclose, teach or suggest the limitations of receiving an indication of a state change for a first resource, transmitting the indication to a second resource dependent on the first resource, and receiving indication of a state change of the second resource.

Accordingly, because Svedberg and the other cited references fail to teach disclose or suggest, alone or in combination, each and every limitation of independent claims 41, 43 and 47, these claims should be allowable and notice to that effect is courteously solicited.

Claim 42 is dependent upon independent claim 41 and claim 43 is dependent on independent claim 43. Thus, since independent claims 41, 43 and 47 should be allowable as

discussed above, claims 42 and 44 should also be allowable at least by virtue of their respective dependency on independent claims 41 and 43.

In view of the foregoing, it is respectfully requested that the aforementioned anticipation rejection of claims 41-44 and 47 be withdrawn.

VII. THE OBVIOUSNESS REJECTION OF CLAIMS 1, 3-8, 13, 14, 16, 18-23, 28, 29, 32, 34, 37 AND 39

On page 6 of the Office Action, claims 1, 3-8, 13, 14, 16, 18-23, 28, 29, 32, 34, 37 and 39 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Curtis (U.S. Patent No. 6,442,754). This rejection is hereby respectfully traversed.

Under 35 U.S.C. § 103, the Patent Office bears the burden of establishing a prima facie case of obviousness. In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). The Patent Office can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of references. Id. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. ACS Hospital

Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). That is, under 35 U.S.C. § 103, teachings of references can be combined only if there is some suggestion or motivation to do so. Id. However, the motivation cannot come from the applicant's invention itself. In re Oetiker, 977 F.2d 1443, 1447, 24 USPQ2d 1443, 1446 (Fed. Cir. 1992). Rather, there must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the art would make the combination. Id.

The Examiner asserts that the combination of Wang and Curtis discloses all of the limitations recited in claims 1, 3-8, 13-14, 16, 18-23, 28, 29, 32, 34, 37 and 39. The Applicants respectfully object to the Examiner's inappropriate combination of Wang and Curtis.

It is respectfully submitted that Curtis and Wang are directed to completely separate and non-analogous arts. As disclosed in its preface, Wang is directed to the telecommunications network management field. In particular, the relevant sections of Wang are directed network level provisioning, where the

goal of network level provisioning is to ensure adequate network level resources are configured to meet the needs of services offered by the network. For example, a service provider is to offer a lease line service. The management tasks involved in

*provisioning network resources to meet the service
needs are the focus of this section*

(Wang, p. 293) (emphasis added).

Thus, the relevant sections of Wang are directed to managing resources at the network level, such as routers, switches, leased lines, etc. In contrast, Curtis is directed to techniques "for installing a program onto a computer including an operating system" (Curtis, Abstract). The disclosed techniques ensure that dependency [software] objects are installed before installing the main program, determining an operating system command that is capable of determining if the dependency objects are installed in the computer and then executing the operating system command to determine whether the dependency objects are installed (Curtis, col. 3, lines 51-67). Thus, rather than being directed to the management of the resources of a dispersed and hardware-based network (as described in Wang), Curtis focuses on installation of software on single computer using its operating system.

Being non-analogous references, it would be unreasonable and unexpected for one of ordinary skill in the art of Wang (that is, one skilled in the art of telecommunications network management) to be motivated to combine the teachings of Wang (disclosing a technique for managing network level resources) with the teachings of Curtis (disclosing a technique for

installing software), and vice versa, to arrive at the methods and systems of claims 1, 3-8, 13-14, 16, 18-23, 28, 29, 32, 34, 37 and 39.

In addition to the combination of Wang and Curtis being improper, Applicants respectfully submit that such a combination fails to disclose each and every limitation recited in claims 1, 3-8, 13-14, 16, 18-23, 28, 29, 32, 34, 37 and 39. For example, although the Examiner alleges that page 296 of Wang discloses the limitations of verifying the existence of all dependency relationship resources on the system, this section disclose only that

[t]he goals of NE level provisioning are to ensure that adequate resources at the NE are deployed and configured to implement the services subscribed to by the customers. For example, if a central office switch is to provide ISDN service to the area subscribers, the required physical resources, such as the interface card, and logical resources, such as software modules, *should be in place before the service offering.*

(Wang, p. 296) (emphasis added).

Thus, while Wang recognizes the advantage of having all of the dependency resources in place, Wang fails to teach or suggest the step of verifying the existence of dependency resources. Moreover, as noted above, neither Wang nor Curtis disclose at least the limitations of: performing at least one of a startup and an initialization

of a resource up to intercomponent connection; waiting for dependency resources to complete initialization; and determining if a resource has any dependency resources.

Accordingly, because the combination of Wang and Curtis as suggested by the Examiner is improper and because Wang, Curtis and the other cited references fail to teach disclose or suggest, alone or in combination, each and every limitation of independent claims 1, 16 and 31, claims 1, 16 and 31 should be allowable and notice to that effect is courteously solicited.

Claims 3-8, 13, 14, 18-23, 28, 29, 32, 34, 37 and 39 are dependent on one of independent claims 1, 16 and 31 and therefore should be allowable at least by virtue of their respective dependency on allowable independent claims 1, 16 and 31. Moreover, these claims recite additional features which are not claimed, disclosed, or even suggested by the cited references taken either alone or in combination. For example, claim 32 recites the additional limitations of: receiving indication from the resource that its internal resources have been successfully allocated and that the resource is waiting for connection; requesting connection information from an inter-component connection manager; and receiving inter-component connection information from the inter-component connection

manager. As another example, claim 35 recites the additional limitations wherein performing startup of the dependency resources comprises requesting a resource pool manager to assign a dependency resource from the resource pool. None of these limitations are disclosed in the cited references.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 41, 3-8, 13, 14, 16, 18-23, 28, 29, 32, 34, 37 and 39 be withdrawn.

VIII. THE OBVIOUSNESS REJECTION OF CLAIMS 2 AND 17

On page 14 of the Office Action, claims 2 and 17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Curtis and further in view of Deo (U.S. Patent No. 6,594,355). This rejection is hereby respectfully traversed.

As noted above, Wang and Curtis are directed to separate, non-analogous arts and therefore one of ordinary skill in either art would have no motivation to combine Wang and Curtis as asserted by the Examiner. Thus, because the combination of Wang and Curtis is improper, the combination of Wang, Curtis and Deo is improper absent any express motivation or suggestion to combine these references. Moreover, as noted above, neither Wang, Curtis nor Deo disclose, teach or suggest, alone or in combination, each and every limitation of claims 1 and 16 from

which claims 2 and 17 depend so claims 2 and 17 should be allowable at least by virtue of their respective dependency on allowable independent claims 1 and 16.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 2 and 17 be withdrawn.

IX. THE OBVIOUSNESS REJECTION OF CLAIMS 9 AND 24

On page 15 of the Office Action, claims 9 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Curtis and further in view of Yue (U.S. Patent No. 6,457,143). This rejection is hereby respectfully traversed.

As noted above, the combination of Wang and Curtis is improper, so the combination of Wang, Curtis and Yue is improper absent any express motivation or suggestion to combine these references. Moreover, as noted above, neither Wang, Curtis nor Yue disclose, teach or suggest, alone or in combination, each and every limitation of claims 1 and 16 from which claims 9 and 24 depend so claims 9 and 24 should be allowable at least by virtue of their respective dependency on allowable independent claims 1 and 16.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 9 and 24 be withdrawn.

X. THE OBVIOUSNESS REJECTION OF CLAIMS 15 AND 30

On page 15 of the Office Action, claims 15 and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Curtis and further in view of Svedberg. This rejection is hereby respectfully traversed.

As noted above, the combination of Wang and Curtis is improper, so the combination of Wang, Curtis and Svedberg is improper absent any express motivation or suggestion to combine these references. Moreover, as noted above, neither Wang, Curtis nor Svedberg disclose, teach or suggest, alone or in combination, each and every limitation of claims 1 and 16 from which claims 15 and 30 depend so claims 15 and 30 should be allowable at least by virtue of their respective dependency on allowable independent claims 1 and 16.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 15 and 30 be withdrawn.

XI. CONCLUSION

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance, and an

early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number, in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-0206, and please credit any excess fees to the same deposit account.

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Date: March 18, 2004

APPENDIX A

Please amend the paragraph starting at page 1, line 4 as follows:

B.1
The subject matter of this application is related to the subject matter of copending U.S. ~~Patent application serial numbers _____, entitled "System and Method for Managing a Component-Based System," "Method and System for Integrated Resource Management," "System and Method for Flexible Network Service Application Components," and "Method and System for Distributing Services," respectively~~ U.S. Patent Application No. 09/749,940 entitled "System and Method for Managing a Component-Based System" (Client Reference: 12873ROUS01U, Attorney Docket No.: 56130.000044), copending U.S. Patent Application No. 09/750,303 entitled "Method and System for Integrated Resource Management" (Client Reference: 12877ROUS01U, Attorney Docket No.: 56130.000041)), copending U.S. Patent Application No. 09/749,938 entitled "System and Method for Providing Flexible Network Service Application Components" (Client Reference: 12875ROUS01U, Attorney Docket No.: 56130.000043), and copending U.S. Patent Application No. 09/749,937 entitled "Method and System for Distributing Service Functionality" (Client Reference: 12874ROUS01U, Attorney Docket No.: 56130.000045),

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each filed the same day as this application and each being
assigned or under obligation of assignment to the same assignee
as this application, and each also incorporated by reference.

Please amend the paragraph starting at page 22, line 25 as
follows:

Other types of dependencies may exist, and the logic of a
Dependency event policy may be arbitrarily complex to reflect
the nature of the dependency. For example, a managed object 724
may depend on a group of other managed objects, such that if 'n'
out of 'm' of them are available, then there is no problem.

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However, if fewer than 'n' are available, then the dependent
managed object may be degraded, etc. Furthermore, new types of
Dependency event policies may be created and added as described
in the related ~~patent application~~ U.S. Patent Application No.
09/749,940 entitled "System and Method for Managing a Component-
Based System.", " U.S. Patent Application No. _____.

APPENDIX B

1 (Currently Amended). A method of dependency management in a component-based system comprising:

defining a resource;

recording an identifier for the resource;

recording resource dependency relationships definitions for the resource;

deploying the resource and the resource dependency relationships of the resource to a system including:

verifying the existence of all dependency relationship resources of the resource on the system;[[,]]

transmitting a warning if any of the dependencies of the are unsatisfied;[[,]]

creating an abstract resource based on a dependency relationship definition of the abstract resource if the abstract resource is not found on the system;[[,]] and

ending deployment if any dependency relationship is unsatisfied and deployment can not be completed without dependency.

2 (Original). The method of claim 1 wherein defining a resource comprises storing a definition of a resource in a tool to be

accessed by a service creation environment ("SCE"), a deployment tool and a service logic execution environment ("SLEE").

3 (Original). The method of claim 1 wherein recording an identifier to a resource comprises recording an identifier including resource identification, type identification and version.

4 (Original). The method of claim 3 wherein recording an identifier further comprises recording an identifier including scope of the resource.

B3
5 (Original). The method of claim 1 wherein recording dependency information comprises recording associations between the resource identifier and resource identifiers for the dependency relationship resources.

6 (Original). The method of claim 1 wherein recording dependency information comprises automatically recording dependency information.

7 (Original). The method of claim 1 wherein recording dependency information comprises manually recording dependency

information through one of: software coding and configuration.

8 (Original). The method of claim 1 wherein recording resource dependency definitions comprises defining dependencies for the resource.

9 (Original). The method of claim 1 wherein recording resource dependency definitions comprises identifying type of dependency for each dependency resource.

10 (Original). The method of claim 9 wherein identifying the type of dependency comprises identifying the dependency as one of a resource that is contained by an entity and a resource that is used by the entity, wherein a resource that is contained by the entity is also used by the entity.

11 (Currently Amended). The method of claim 10 wherein ~~if~~ a resource can be deployed without satisfying a dependency relationship if the dependency resource is a uses type dependency.

12 (Currently Amended). The method of claim 10 wherein identifying the dependency type comprises identifying the

dependency type according to the rules:

if entity A uses resource B and resource B uses resource C,
then A contains C[[,]]

if A contains B and B contains C, then A contains C[[,]]

if A uses B and B contains C, then A uses C[[,]] and

if A contains B and B uses C, then A uses C.

13 (Original). The method of claim 1 wherein deploying the resource comprises using a deployment tool to deploy the resource wherein the deployment tool transmits information regarding dependency relationships to a resource management infrastructure.

14 (Original). The method of claim 1 wherein recording resource dependency relationships definitions for the resource comprises recording dependency relationships to at least one resource pool, the resource pool including a set of homogenous resources used interchangeably on a dynamic basis and allocated to dependent objects as needed.

15 (Original). The method of claim 1 further comprising creating a relationship between the resource and a resource pool manager if the resource will be used interchangeably with other

resources in a resource pool, wherein the resource pool manager acts as a proxy for the pooled resources and handles dependency relationships on behalf of the pooled resources.

16 (Currently Amended). A system for dependency management in a component-based system comprising:

means for defining a resource;

means for recording an identifier for the resource;

means for recording resource dependency relationships definitions for the resource;

means for deploying the resource and the resource dependency relationships of the resource to a system including:

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means for verifying the existence of all dependency relationship resources of the resource on the system;[[,]]

means for transmitting a warning if any of the dependencies of the are unsatisfied;[[,]]

means for creating an abstract resource based on a dependency relationship definition of the abstract resource if the abstract resource is not found on the system;[[,]] and

means for ending deployment if any dependency relationship is unsatisfied and deployment can not be completed without dependency.

17 (Original). The system of claim 16 wherein the means for

defining a resource comprises means for storing a definition of a resource in a tool to be accessed by a service creation environment ("SCE"), a deployment tool and a service logic execution environment ("SLEE").

18 (Original). The system of claim 16 wherein the means for recording an identifier to a resource comprises means for recording an identifier including resource identification, type identification and version.

19 (Currently Amended). The system of claim 18 wherein the means for recording an identifier further comprises means for recording an identifier including a scope of the resource.

20 (Original). The system of claim 16 wherein the means for recording dependency information comprises means for recording associations between the resource identifier and resource identifiers for the dependency relationship resources.

21 (Original). The system of claim 16 wherein the means for recording dependency information comprises means for automatically recording dependency information.

22 (Original). The system of claim 16 wherein the means for recording dependency information comprises means for manually recording dependency information through one of: software coding and configuration.

23 (Original). The system of claim 16 wherein the means for recording resource dependency definitions comprises means for defining dependencies for the resource.

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24 (Original). The system of claim 16 wherein the means for recording resource dependency definitions comprises means for identifying type of dependency for each dependency resource.

25 (Original). The system of claim 24 wherein the means for identifying the type of dependency comprises means for identifying the dependency as one of a resource that is contained by an entity and a resource that is used by the entity, wherein a resource that is contained by the entity is also used by the entity.

26 (Original). The system of claim 25 wherein a resource can be deployed without satisfying a dependency relationship if the dependency resource is a uses type dependency.

27 (Currently Amended). The system of claim 25 wherein the means for identifying the dependency type comprises means for identifying the dependency type according to the rules:

if entity A uses resource B and resource B uses resource C,
then A contains $C_i[[,]]$

if A contains B and B contains C, then A contains $C_i[[,]]$

if A uses B and B contains C, then A uses $C_i[[,]]$ and

if A contains B and B uses C, then A uses C.

28 (Original). The system of claim 16 wherein the means for deploying the resource comprises means for using a deployment tool to deploy the resource wherein the deployment tool transmits information regarding dependency relationships to a resource management infrastructure.

29 (Original). The system of claim 16 wherein the means for recording resource dependency relationships definitions for the resource comprises means for recording dependency relationships to at least one resource pool, the resource pool including a set of homogenous resources used interchangeably on a dynamic basis and allocated to dependent objects as needed.

30 (Original). The system of claim 16 further comprising means for creating a relationship between the resource and a resource pool manager if the resource will be used interchangeably with other resources in a resource pool, wherein the resource pool manager acts as a proxy for the pooled resources and handles dependency relationships on behalf of the pooled resources.

31 (Original). A method of managing dependencies in a component-based system comprising:

performing at least one of a startup and an initialization of a resource up to inter-component connection;

determining if the resource has any dependency resources, the resource and its dependency resources forming a group of resources;

waiting for dependency resources to complete initialization;

establishing connections to dependency resources;

proceeding with the at least one of startup and initialization; and

establishing connections to the resource from the dependency resources.

32 (Original). The method of claim 31 further comprising:

receiving indication from the resource that its internal resources have been successfully allocated and that the resource is waiting for connection;

requesting connection information from an inter-component connection manager; and

receiving inter-component connection information from the inter-component connection manager.

33 (Original). The method of claim 31 wherein determining if the resource has any dependency resource comprises determining dependency inter-component connection information from inter-component connection information received from an inter-component connection manager.

34 (Original). The method of claim 31 wherein inter-component connection the resources comprises

placing the resource on a ready for inter-component connection list until the dependency resources have been started;

receiving indication from the dependency resource that its internal resources have been successfully allocated and that the dependency resource is waiting for inter-component connection;

requesting inter-component connection information from a
inter-component connection manager; and
traversing all entries of inter-component connection
information.

35 (Original). The method of claim 31 wherein performing startup
of the dependency resources comprises requesting a resource pool
manager to assign a dependency resource from the resource pool.

36 (Original). A system for managing dependencies in a
component-based system comprising:

B.3
means for performing at least one of a startup and an
initialization of a resource up to inter-component connection;

means for determining if the resource has any dependency
resources, the resource and its dependency resources forming a
group of resources;

means for waiting for dependency resources to complete
initialization;

means for establishing connections to dependency resources;

means for proceeding with the at least one of startup and
initialization; and

means for establishing connections to the resource from the
dependency resources.

37 (Original). The system of claim 36 further comprising:

means for receiving indication from the resource that its internal resources have been successfully allocated and that the resource is waiting for inter-component connections;

means for requesting inter-component connection information from a inter-component connection manager; and

means for receiving inter-component connection information from the inter-component connection manager.

38 (Original). The system of claim 36 wherein the means for determining if the resource has any dependency resource comprises means for determining dependency inter-component connection information from inter-component connection information received from an inter-component connection manager.

39 (Original). The system of claim 36 wherein the means for performing inter-component connection on the resources comprises

means for placing the resource on a ready for inter-component connection list until the dependency resources have been started;

means for receiving indication from the dependency resource that its internal resources have been successfully allocated and

that the dependency resource is waiting for inter-component connections;

means for requesting inter-component connection information from a inter-component connection manager; and

means for traversing all entries of inter-component connection information.

40 (Original). The system of claim 36 wherein the means for performing startup of the dependency resources comprises means for requesting a resource pool manager to assign a dependency resource from the resource pool.

41 (Previously Presented). A method of managing dependencies in a component-based system comprising:

receiving indication of a state change for a first resource;

transmitting the indication of the state change of the first resource to a second resource dependent on the first resource; and

receiving indication of a state change of the second resource.

42 (Original). The method of claim 41 wherein receiving indication of the state change of the first resource comprises receiving indication of the state change from a managed object view of the first resource, transmitting the indication of state change to the second resource comprises transmitting the indication to a managed object view of the second resource and receiving indication of the state change of the second resource comprises receiving the indication of state change from the managed object view of the second resource.

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43 (Previously Presented). A system for managing dependencies in a component-based system comprising:

means for receiving indication of a state change for a first resource;

means for transmitting the indication of the state change of the first resource to a second resource dependent on the first resource; and

means for receiving indication of a state change of the second resource.

44 (Original). The system of claim 43 wherein the means for receiving indication of the state change of the first resource comprises means for receiving indication of the state change

from a managed object view of the first resource, the means for transmitting the indication of state change to the second resource comprises means for transmitting the indication to a managed object view of the second resource and the means for receiving indication of the state change of the second resource comprises means for receiving the indication of state change from the managed object view of the second resource.

45 (Currently Amended). A computer readable medium, the computer readable medium storing computer readable code executable to perform a method for managing a component-based system comprising:

defining a resource;

recording an identifier for the resource;

recording resource dependency relationships definitions for the resource;

deploying the resource and the resource dependency relationships of the resource to a system including:

verifying the existence of all dependency relationship resources of the resource on the system;[[,]]

transmitting a warning if any of the dependencies of the are unsatisfied;[[,]]

creating an abstract resource based on a dependency

relationship definition of the abstract resource if the abstract resource is not found on the system;[[,]] and

ending deployment if any dependency relationship is unsatisfied and deployment can not be completed without dependency.

46 (Original). A computer readable medium, the computer readable medium storing computer readable code executable to perform a method for managing a component-based system comprising:

performing at least one of a startup and an initialization of a resource up to inter-component connection;

determining if the resource has any dependency resources, the resource and its dependency resources forming a group of resources;

waiting for dependency resources to complete initialization;

establishing connections to dependency resources;

proceeding with the at least one of startup and initialization; and

establishing connections to the resource from the dependency resources.

47 (Previously Presented). A computer readable medium, the computer readable medium storing computer readable code executable to perform a method for managing a component-based system comprising:

receiving indication of a state change for a first resource;

pb transmitting the indication of the state change of the first resource to a second resource dependent on the first resource; and

receiving indication of a state change of the second resource.

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APPENDIX C